

voluminous, they are, in fact described as maximum 0.020 inch high (6, line 14) which would not produce any bulk, which is our purpose.

Prior knowledge of Francis would not lead to our concept.

Claims 1,5,6 and 29 were disallowed as anticipated by Flieger - 5,447,772 and Bustin - 3,857,144:
Flieger uses a single sheet of plastic which consists of two outer layers cemented together with an adhesive bonding central layers during the fusion process (4, line 3).

He deforms it in a few areas. Subsequently the outer layers are pulled apart in a few sections, leaving indented sections which can be snapped and adhered together again to reclose them.

Bustin describes an embossed thin walled, less than 0.025 mm (0.001inch) highly flexible film (see 1 line 67) with pyramids of maximum 0.5mm (0.020 inch) height for films which will not stick to each other when handled (see 1, line 48) and for the production of bags with a "softer hand" (see 1, line 58) or which can be filled more easily without the contents getting stuck to a smooth surface. A stack of bags will be less slippery.

Bustin does allow two layers to be embossed simultaneously (2, line 23).

However, the film is so thin and flexible that the domes, if they were in fact bigger which they are not, would collapse rather than providing resilient resistance.

May I respectfully suggest that Flieger and Bustin separately or in combination do not anticipate our totally different concept.

Claims 2 to 4 were disallowed as obvious over Fabre, Francis, Flieger or Bustin in view of Seksaria:
Seksaria (1992) produces reenforced automotive components whereby sheet metal is reenforced in shape by specifically formed plastic sheets which is adhered at desired critical areas. Figure 4 stretches this concept to the ultimate! Seksaria (1992) builds his case over US Pat. 4,348,442 (1, line 51) without mentioning prior Bustin (1974), Fabre (1975) or Francis (1985).

Reliance on the above alone or in combination to teach my invention is speculative.

If it was obvious then this invention is long overdue. Persons skilled in the art and familiar with prior procedures and patents, including myself in plastics since 1945 (and holding about 12 prior patents for totally different inventions, some of which were very successful), and the many thermoformers who produce billions of pill sachets, cream, jelly, butter and margarine pods and tubs of all sizes, plastic cups, containers, trays and blister packs, etc., did not think of this.

They could have formed multiple nesting layers of substantially identical dimensions at one time and would have saved huge amounts of space

It took almost 2 years to come up with the solution for a less bulky packaging material. The breakthrough came with the unexpected discovery that, in fact, each layer must have progressively slightly smaller domes which may be achieved by plying up plastic films and doming them together at

one time. Then followed testing up to 80 films of different polymers and thicknesses for "domability" without destroying or blushing the film and then obtaining easy separation and adequate subsequent cushioning properties. The latest step was tooling up for production of realistic prototypes which show that this invention is indeed practical. These samples were cold formed, which, in fact, is another discovery which the entire industry predicted can't be done!

However, many prior art patents, some of which we previously cited, and these, do show domed sheets, some of which are used for packaging. My invention distinguishes itself clearly in the method of manufacture - the assembly of multiple medium rigid films, more than two and up to perhaps 8 or 10, which are "domed" together at one time to form a tightly nesting low bulk assembly which can then be pulled apart to form individual high domed bulky cushioning and resilient films.

Also, the mechanical doming methods described in the text are standard procedures.

In view of that I wish to submit new claims:

All previous claims are canceled. New claims are:

1. The method of manufacture of domed bulky cushioning, resilient and flexible single layer plastic packaging films which are originally stacked in low volume nesting layers achieved by assembling multiple layers and doming them together at one time.
2. The method in Claim 1 where the plastic sheet is typically 0.004 inch thick, the domes are at least 3/32 inch high and the number of layers is two or more.
3. The method in Claim 1 where the plastic film assembly consists of amorphous rigid vinyl or polyethylene terephthalate films which can be domed at room temperature.
4. The method in Claim 1 where the plastic film assembly consists of a non-crystalline malleable plastic material which can be domed at room temperature.
5. The method in Claim 1 where non-malleable plastic films are heated and thermoformed to achieve the nesting domes.
6. The method in claim 1 where the assembly of multiple layers is achieved by folding larger sheets into layers, doming them as before and then unfolding them to reform the larger sheets.
7. The method in claim 6 where the folded and domed sheets are packed in standard stationery boxes, yet the unfolded sheets are again much larger in surface area.

Respectfully submitted. Peter H. Seckel

My File USPTO52303.